

NATIONAL DIGITAL LIBRARY OF INDIA TO THE NATION

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ABSTRACT

This paper analysis some of the current trends in research and development in the field of digital libraries in India. The exhibition focuses on key features of the new generation of digital libraries. Specific digital library design features, performance principles, and some implementation details are discussed as examples of suggested ideas.

In the decade and half our country is going to have world's largest working force. Appropriately time is short to make work force Education. A part of Digital India vision of our PM (Narendra Modi) Ministry of HRD and NMETCT.

Things are about to change. Let us create a Library. A library that brings together India large Digital based knowledge let us create a movement. A movement for personalized contact, a movement for multilevel contact. To create knowledge source for the nation. That sources as Central Digital knowledge based National Digital Library.

A Portal several institutions open and subscribe contacts to a single window. A source from all forms of resources and Institutional materials (Text, Audio, Video, Image, Animation, Stimulation, Presentation and Application), not text books and journals.

IIT Kharagpur for the target bridge of IIT system in the country as put in the first step forward but we cannot do this alone. Students, Faculty, Researchers need to help this movement become the key driving forces from the knowledge economy organized. National Digital Library for India for all citizens of the country.

KEYWORDS: *Digital Library, Digital Knowledge, Single Window, HRD and NMETCT*

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INTRODUCTION

The first public library in India was the State **Central Library of Kerala**, also known as the Trivandrum Public Library. Formerly known as the Trivandrum People's Library, it was established in 1829 and was accessed by a special class during the reign of King Swathi Thirunal.

Established in 1896 in Agartala, the capital of Tripura, the library operates from the Birchandra State Central Library, the oldest library in the region. "The Birchandra Library has a huge collection of books, journals, manuscripts and annual reports on all subjects," added Head of the Librarian Subi Kumar Debbama.

A library in which collections are stored in digital formats (as opposed to print, microform, or other media) and accessible by computer is called Digital Library. The digital content can be stored locally, or accessed remotely via computer networks. A digital library is a type of information recovery system. A Digital library is an organization that

provides a comprehensive collection of virtual and unique functions of its user community according to measurable quality and according to codified policies.

Libraries are the storehouse of knowledge because they make the book and other resources of knowledge available - mostly in printed form. However, with the advent of digital technology and internet connectivity, the library landscape is changing rapidly. Digital technology, Internet connectivity and physical content lead to a digital library. Data available in physical form is stored digitally in a digital library. Digital libraries have the potential to increase access to information and knowledge. They also bridge the barriers of time and space.

- **Digital Library:** “an organization, which might be virtual, that comprehensively collects, manages and preserves for the long term rich digital content, and offers to its user communities specialized functionality on that content, of measurable quality and according to codified policies”;
- **Digital Library System:** “a software system that is based on a defined (possibly distributed) architecture and provides all functionality required by a particular digital library”;
- **Digital Library System Management:** “a software system that provides the necessary software infrastructure both to produce and administer a digital library system incorporating the suite of functionality considered fundamental for digital libraries and to integrate additional software offering more refined, specialized or advanced functionality”

The early history of digital libraries was not properly documented, but many leading thinkers were associated with the emergence of the concept. Ancestors include Paul Otlet and Henry La Fontaines Mundenium, who in 1895 sought to systematically list world knowledge, hoping to bring world peace. Millions of people around the world are accessing books and searching for documents on the Web. The visions of the digital library were realized a century later during the great expansion of the Internet with access to the books and searching documents through World Wide Web.

First use the word digital library in print may have been in a 1988 report to the Corporation for National Research Initiatives. The word digital library was first coined in 1994 by the NSF / DARPA / NASA Digital Libraries Initiative. The word virtual library was originally interchangeable with digital in the library, but is now primarily used to refer to libraries that exist virtually in other senses (such as libraries) which are the entire distributed content).

- Uttar Pradesh government has launches a digital library to help the students in higher education access academic content in digital format.
- Chemmaruthy has the first panchayat in the state to have a digital library

Union Minister for Human Resource Development, Shri Prakash Javadekar HRD Ministry 'National Digital Library of India' launched a new digital initiative in New Delhi on 19 June 2018 on the occasion of National Reading Day. It is a project of the Ministry of Human Resource Development under the auspices of the National Mission on Education through the National Digital Library of India (NDLI) Information and Communication Technology (NMEICT). The goal of NDL is to make digital educational resources available to all citizens of the country, to provide empowerment, inspiration and encouragement for learning. IIT Kharagpur was developed the National Digital Library of India.

The project of National Digital library of India was working under the Ministry of Education, Government of India. The main objective was to collect and collate metadata and provided full text index from several or many national and international digital libraries, as well as other relevant sources. It was a digital repository containing articles,

textbooks, audio books, videos, lectures, simulations, fiction and all other kinds of learning media. NDLI was provided free of cost access too many books in Indian languages and English.

DLI (Digital Library of India) is a digital collection of rare books available from various libraries in India. The DLI project began in the early 2000's with the goal of archiving and digitally preserving all of mankind's important literary, artistic, and scientific works, and making them freely available to everyone on the Internet for education, study, appreciation, and future generations. As a first step in realizing this vision, it is proposed to create a digital library with a searchable collection of one million books for free, mainly in Indian languages. The project was initiated by the Office of the Principal Scientific Adviser to the Government of India and later taken over by the Government through the Ministry of Electronics and Information Technology (DEIT), Communications and Information Technology (MCIT). The idea is to create a test bed for researchers to promote scanning techniques, optical character recognition, intelligent indexing and Indian language technology research in general.

What is Use of the Digital Library?

Objects contain digitized content such as print or photographs, as well as virtually generated digital content such as word processor files or social media posts. In addition to storing content, digital libraries provide ways to manage, search, and retrieve content within a collection.

Digital libraries can vary greatly in size and range and are managed by individuals or organizations. Digital content can be stored locally or accessed remotely via computer networks. These information recovery systems can exchange information with each other through interaction and sustainability.

National Digital India begins as we dedicate this digital library to the country. NDL is a 24x7 ubiquitous knowledge resource that is accessible to anyone with internet access and is designed to enable digital India growth. Anyone can access the digital library anytime, anywhere for free and this greatly contributes to the government's commitment to "**Padhe Bharat Badhe Bharat**".

How Can I Download Book from National Digital Library of India?

Students can download books, study materials, previous years question papers etc. If any school, college want to use this National Digital Library India (NDLI) app officially, then any authority of the institution has to submit Institution's details on <http://ndl.iitkgp.ac.in> for Sign up process.

If any school or college wants to use this National Digital Library India (NDLI) app officially for students download books, study materials, previous year question papers etc., any organization of the organization should submit the institutions details at <http://ndl.iitkgp.ac.in>. For the signup process

To learn more about the National Library under the Ministry of Culture. Everyone can register for free to access a collection of rare digitized books, documents, library catalogues, online journals, etc.

The National Digital Library in India is currently available in PDF (Portable Document Format) with 19,16,77,823 pages in 5,50,619 books. The project was established by DIIT (Department of Electronics and Information Technology), MCIT (The Ministry of Communication and Information Technology) and Government of India.

National Digital Library in India is a digital library that provides quality learning resources to all learners and contains 17 million content from more than 160 sources, in more than two hundred languages, over 3 million users

registered everywhere, and our goal is to increase users 10 times a year. NDLI Platform is cooperative in nature and congratulates the cooperatives for making their digital repositories available for integration with National Digital Library in India.

One of the goals of the Digital Library of India is to provide support for full text indexing and searching based on **OCR (optical character recognition)** technologies available. The availability of online search allows users to locate relevant information quickly and reliably thus enhancing student's success in their research endeavours. This 24x7 resource would also provide an excellent test bed for language processing research in areas such as machine translation, optical character recognition, summarization, speech and hand writing recognition, intelligent indexing, and information retrieval in Indian languages.

The main objective of the Digital Library of India is to provide support for full text indexing and searching based on the available Optical Character Recognition (OCR) technologies. Allows all users to quickly and reliably identify relevant information to obtain an online search, thereby improving student success in their research endeavours. An excellent test site for 24x7 resource machine translation, OCR, summary, speech and handwriting recognition, intelligent indexing and language processing research in retrieving information in Indian languages.

The Ministry of Human Resource Development has launched the **NDLI Pilot Project** through its National Mission on Education through Information and Communication Technology. The Project developed the Learning Resources Virtual Repository Framework with Single-Window Search Facility.

Filtered and federated searching is employed to facilitate focused searching so that learners can find out the right resource with least effort and in minimum time. NDLI India is designed to hold content of any language and provides interface support for leading vernacular languages.

The **National Digital Library in India** is designed to contain content in any language and provides interface support for popular local languages. So that practitioners can find the right resource with minimal effort and in the least amount of time, filtering and federal search can be used to facilitate centralized search.

NDLI in India is set up to support researchers and lifelong learner's at all academic levels, including all disciplines, accessible devices of all forms, and practitioners of diverse abilities.

NDLI in India is developed to prepare for the entrance and competitive exams, to learn and prepare people from the best practices around the world and to help researchers do inter-linked exploration from multiple sources.

NDLI is also available on the Mobile app. NDLI Mobile app is enabling access to rich digital content of libraries across the country and even foreign repositories to users even in the remotest of areas. The App, which has been downloaded over 6.70 lakh times, is currently available for both i Phone and Android users. Users can search for content using various parameters like subject matter, source, content type and more. Right Now the app is available in three languages – English, Hindi and Bengali.

Also available on the NDLI mobile app. The NDLI mobile app allows users to access the rich digital content of libraries nationwide and even foreign repositories in remote areas. This app is currently available for i Phone and Android mobile users. Users can use various parameters such as content, source, content type and more for research and knowledge.

NDLI is the Single Window Platform. A single window search facility for ever-growing digital content repository. It collates metadata from major learning institutions in India and abroad and from other relevant sources. Digital repository containing textbooks, articles, lectures, simulations, videos, audio books, fiction and all other learning media. Presently the App is available in three Indian Languages: i) English, ii) Hindi and iii) Bengali.

Different Ways to Browse Content Repository

- Browse by content type
- Browse by source
- Browse by subject and
- Browse by learning resource type.

Filtering search result and browse with face - based refinement options.

Contents relating to different level users.

Contents is Available for Different Subject Domains

- Technology
- Arts and Humanities
- Social Sciences
- Natural Science etc.

NDLI App and Content can be Approaches in three different Languages

- English
- Hindi and
- Bengali.

Digital Library Achieves

Digital libraries have been even more revolutionary to achieve since the second and third break in these general rules. In other words, “digital archives” / “online archives” still generally contain primary sources, but they are likely to be described individually rather than in groups or collections and because they are digital their contents can be easily reproducible and actually reproduced from elsewhere.

Physical archives are different from physical libraries in many ways. Traditionally, archives have been defined as:

- Basic information resources (usually letters and documents produced directly by an individual or organization) rather than secondary resources found in the library (books, journals, etc.).
- Organizing their contents in groups rather than individual items.
- Having special things (unique contents.)

The technology used to create digital libraries is even more revolutionary for archives since it breaks down the second and third of these general rules. In other words, "digital archives" or "online archives" will still generally contain primary sources, but they are likely to be described individually rather than (or in addition to) in groups or collections. Further, because they are digital, their contents are easily reproducible and may indeed have been reproduced from elsewhere. The Text Archive is generally considered to be the oldest digital archive of academic physical primary source materials.

Archives vary in the nature of the materials they contain from libraries. Libraries collect restrictions on books and serials or personal items published by individuals. Books and journals that contain libraries are not exclusive because there are multiple copies and any copies are generally as satisfying as other copies. Items in archives and manuscript libraries are "the unique records of corporate bodies and the papers of individuals and families".

The basic feature of archives is that they keep the context in which their records were created and the network of relationships between them in order to preserve their informative content and provide meaningful and useful information over time. The basic feature of archives resides in their hierarchical organization that expresses context through the archival bond.

Archival descriptions are the basic tools for interpreting, understanding, retrieving and accessing archival material. Archive descriptions are usually encoded in digitally encoded XML format. EAD is the standard electronic representation of archival description, enabling union access to detailed archival descriptions and resources in repositories worldwide.

Digital Library: Advantages

The advantages of digital libraries as a tool for easy and fast access to a wide variety of books, archives and images are now widely recognized by commercial interests and public associations.

The storage space of traditional libraries is limited, but digital libraries have the potential to store more information because digital information requires very little physical space to hold it. Also, the cost to a traditional library is higher compared to a digital library. A traditional library must spend large sums of money paying for staff, book maintenance, rent and additional books. Digital libraries may reduce or, in some instances, do away with these fees. Both types of library require cataloguing input to allow users to locate and retrieve material. Digital library may be more willing to adopt innovations in technology providing users with improvements in electronic and audio book technology as well as presenting new forms of communication such as wikis and blogs; conventional libraries may consider that providing online access to their OPAC catalogue is sufficient. An important advantage to digital conversion increased accessibility to users.

The maintenance of a traditional library will require a large amount of money because of the high maintenance burden for staff, book rent and extra books. Digital libraries may reduce or eliminate these fees in some cases. Both types of library require catalogue input to allow users to identify and retrieve material. The digital library may be more inclined to embrace innovations in technology by providing improvements in electronic and audio book technology as well as providing new types of communication such as wikis and blogs; Traditional libraries may consider it sufficient to provide online access to their OPAC catalogue.

They also increase the availability of people who are not traditional patrons of the library due to geographical location or organizational affiliation.

There is no physical Boundary

Users of a digital library do not have to physically go to the library; People around the world can access the same information as long as an internet connection is available.

24/7 Availability

The main advantage of digital libraries is that people can get access information at any time, night or day.

Multi Access

Many organizations or institutions and persons can use the same resources at the same time. This may not be the case with copyrighted material: a library may be licensed to "lending out" only one copy at a time; this is accomplished with the Digital Rights Management System, where the resource is unavailable after the loan term expires or the lender chooses not to access it (equivalent to repaying the resource)

Retrieving Information

Digital libraries can provide many user-friendly interfaces, giving clickable access to its resources. The user can use any search term (word, phrase, title, name and subject) to search the entire collection.

Conservation and Preservation

Digitization has been successful in providing access copies for degraded materials due to repeated use. But Digitization is not a long-term preservation solution for physical collections. Digitized collections and born-digital objects cause a lot of preservation and conservation concerns that do not have similar materials.

Space

Although traditional libraries are made by limited space, digital libraries have the potential to store more information; Digital information storage requires very little physical space and media storage technologies are more efficient than ever before.

Value Added

Some features of the targets, mainly the image quality can be improved. Digitalization increases clarity and can eliminate visible defects such as stains and discoloration.

Drawbacks of Digital Libraries

The Digital libraries, or at least their digital collections, have unfortunately brought their own problems and challenges to such areas:

- User authentication for access to the collections
- Copyright
- Digital Conservation & preservation
- Equity of the access
- Communal design of two objectives or Interface design

- interaction between systems and software
- Information agency
- Inefficient taxonomy practices (especially with historical material)
- development and Training
- Metadata Quality
- High cost to build / maintain terabytes of storage, servers and redundancies required for functional digital storage.
- Many large-scale digitization projects are in the process of perpetuating these problems.

CONCLUSIONS

Computers have been introduced to many educational institutions over the past few years, but the ratio of student to computer is very high. Some kind of reform can take place by educating students using available technology and by taking the initiative of academics to implement them.

Whatever India does with respectable technical requirements, the world is filled with information and few make effective use of it. They are people who have developed their skills to the level of finding problem-related information and describing and applying them in problem solving.

Digital archives are an evolving medium and they develop under various circumstances. Alongside large scale repositories, other digital archiving projects have also evolved in response to needs in research and research communication on various institutional levels. For example, during the COVID-19 pandemic, libraries and higher education institutions have launched digital archiving projects to document life during the pandemic, thus creating a digital, cultural record of collective memories from the period. Researchers have also utilized digital archiving to create specialized research databases. These databases compile digital records for use on international and interdisciplinary levels. COVID CORPUS, launched in October 2020, is an example of such a database, built in response to scientific communication needs in light of the pandemic.

Digital archives are a growing medium and can thrive in a variety of contexts. In addition to large-scale repositories, other digital archiving projects have also been developed in response to needs in research and research communication at other organizational levels.

For example, libraries and institutions of higher learning were closed during the COVID-19 pandemic, and students sought education through online classes and digital classes during the pandemic. Everyone understands the importance of digital. Launched digital archiving projects to document life, thereby creating a digital, cultural record of collective memories from that period.

Researchers have also used digital archiving to create databases for specific research. These databases compile digital records for use at the international and interdisciplinary levels.

An example of such as the database was built in response to the needs of scientific communication in the light of the pandemic. COVID CORPUS, launched in October 2020.

Education and culture are the cornerstones of India in the sense of 'UNITY IN DIVERSITY'. and National Digital Library is a path breaking initiative by MHRD in this direction.

The MHRD initiative aims to make the National Digital Library accessible to the public. He wants all Indian students, academics and researchers to seize this opportunity and aspire to be partners in the progress of the country.

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